

# UNIVERSITY News

MONDAY, JULY 18, 1988

Rs. 1.50

ALAGAPPA UNIVERSITY  
ANNUAL CONVOCATION 1988

55.1988



Dr. P.C. Alexander, Governor of Tamil Nadu, addressing the First Convocation of the Alagappa University. Others seen from L to R are Dr. (Mrs.) Radha Thiagarajan, Vice-Chancellor, Mr. A. Padmanabhan, Pro-Chancellor and Dr. Raja Ramanna, Chairman, Governing Council, Indian Institute of Science, Bangalore, who delivered the convocation address.

# CLASSIFIED ADVERTISEMENTS

## THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY PATIALA (DEEMED UNIVERSITY)

Advt. No. PAS 9/88

Applications on prescribed form (obtainable free from the Office of the Registrar by sending a self-addressed stamped envelope for Rs. 1.40 of 9" x 4" size) are invited for the permanent post of Registrar.

**Pay Scale :** Rs. 1500-60-1800-100-2000-125-2-2500 plus other allowances as admissible under the Institute Regulations.

### Essential Qualifications

- (i) A Bachelor's degree in Arts, Science, Commerce, Engineering or Technology of a recognised University with consistently good academic record.
- (ii) A Post-graduate degree or Diploma in any of the above fields or in Public Administration Management of a recognised Institute University.

### Experience

A minimum 15 years of experience in a Government, Educational or Research Institute or in a Commercial Organisation of national standing. Out of this, atleast 8 years should be in a Senior Administrative position. The candidate should have a good grasp in financial matters, secretarial experience of statutory bodies and committees, familiarity with academic activities and working procedures in higher educational Institutions.

### Desirable

Degree in Law, Teaching, research or administrative experience in a residential educational Campus. Experience of Computer Applications to management information system.

Applications on prescribed form giving full particulars including names and addresses of three referees familiar with the professional work of the candidate and accompanied by a Crossed Indian Postal Order/Bank Draft for Rs. 10/- drawn in favour of Thapar Institute of Engineering & Technology, Patiala, payable at Patiala should reach the Deputy Director by **5th August, 1988**. Scheduled Caste Tribes candidates and candidates from abroad are exempted from payment of application fee.

DEPUTY DIRECTOR

## TATA INSTITUTE OF SOCIAL SCIENCES DEONAR, BOMBAY-400 088.

Dated : July 4, 1988

The Unit for Rural Studies, Tata Institute of Social Sciences, Bombay, requires a senior co-ordinator (Reader) for stationing in the district of Osmanabad near Tulzapur, in its rural Campus. The post is permanent and the incumbent is expected to initiate and co-ordinate training, research and action projects in the area of rural development. While the person is expected to be placed at Tulzapur, the job would require extensive travelling between the Bombay campus and the selected location near Tulzapur. The right candidate should have a good academic record with a Master's degree (with a minimum of 55% of the marks) in Social Work Rural Development. If the candidate does not have a Ph.D., it will be necessary to complete it in 8 years. Experience in rural development projects (training action research) and liaison with Government Departments will be preferred. The candidate should be fluent in Hindi and English. Knowledge of Marathi would be an added advantage.

The Selected candidate would be placed in the scale of Rs. 3700-150-5300 plus the usual allowances permissible at Tulzapur, for the Maharashtra State Government employees. Total Emoluments at the minimum of the scale will be Rs. 4155.00 p.m. and at the maximum of the scale will be Rs. 5777.00 p.m.

The prescribed application form should be obtained from the above address either in person, or by post, by sending an application for the same, alongwith a stamped self-addressed envelope (Rs. 2/-) superscribed "Request for application for Senior Co-ordinator". Last date for receipt of completed application form is **31.7.1988**.

N. Krishnamoorthy  
REGISTRAR

## PANJAB UNIVERSITY CHANDIGARH

Advt. No. 7/88

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, alongwith Postal Order of Rs. 10/- by **8-8-1988**. Fourteen days extra time is permissible to persons who have to submit their applications from abroad.

1. **Professors :** (Rs. 4500-150-5700-200-7300) (Revised)

Mathematics -3.  
Statistics -2.

2. **Lecturers :** (Rs. 2200-75-2800-100-4000) (Revised).

Mathematics -4.

3. **Research Associate :** Centre for Advanced Study in Mathematics -1.

Category A : Rs. 1400 - p.m. (fixed) Likely to be revised  
Category B : Rs. 1600 - p.m. (fixed) as per  
Category C : Rs. 1800 - p.m. (fixed) U.G.C. norms.  
Category D : Rs. 2000 - p.m. (fixed).

4. **Research Assistant :** (Rs. 550-20-650-25-750).

Statistics -1.

5. **Instructor :** (Rs. 550-20-650-25-750).  
Statistics -1.

6. **Research Fellow :** (Rs. 950 - p.m. (fixed)).

Statistics -1. (Likely to be revised as per U.G.C. norms).

### Note:

1. The Vice-Chancellor could place before the Selection Committee names of suitable persons for its consideration alongwith the applications received in response to the advertisement.

2. It is not obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications.

3. The number of vacancies may change.

4. The University may also prepare panels of suitable candidates for appointment against vacancies occurring within a specified period.

Detailed instructions, specialisations, various allocations and reservations concerning the various posts and other details are available with the application forms. These can be obtained from the Cashier, Panjab University, Chandigarh personally on payment of Rs. 2/- or by making a written request to the Assistant Registrar (Estt.-1), Panjab University, Chandigarh, accompanied by self-addressed stamped (worth Rs. 3.40) envelope of 23 x 10 cms. and postal order of Rs. 2/- drawn in favour of the Registrar, Panjab University, Chandigarh.



# Resource Allocation for Higher Education

## LESSONS FROM USSR

M. M. Ansari\*

### I

There are vital differences in the approaches to plan for the development of higher education in socialist and capitalist countries. An important difference is that while in the capitalist countries the planning for expansion and diversification of higher education is largely determined on considerations of social demand and rates of returns to education, in the socialist countries manpower approach is the main criterion for planning educational development. A common feature of the system of higher education in both types of countries is that the admission to various programmes of higher education is given mainly on the basis of merit of individual student and his capacity to learn and benefit from university education. Following such an approach, an assessment of the teaching and research load is made for each department and course of studies, and accordingly, reasonable amount of funds are made available by the central and provincial governments and industries, etc. Thus, in both types of countries, the resources requirement of the institutions of higher education are essentially linked with the planned number of students to be enrolled under various programmes of study.

As against this, the system of higher education in India has been functioning under the exigencies of social demand for education. The expansion and diversification of the system have not been desirably linked with either rates of returns to courses of study and/or manpower requirements of various sectors of development. It is precisely for this reason that (i) some of the educational programmes like elementary and vocational education, which are estimated to yield high rates of returns, have received less than desirable allocation of resources as compared to general higher education; (ii) due to the lack of effective manpower planning there are shortages of technical personnel in certain areas and surpluses in some others which consequently impede the process

of development; (iii) the quality of the university output is generally felt to be much lower than desired since the government has been unable to provide for physical and financial resources commensurate with the demand for higher education; and (iv) the problem of graduate unemployment has aggravated since the annual production of graduates is more than that could be absorbed by the economy.

In Soviet Union, such problems as above are tackled by way of effective planning for and utilization of physical and financial resources for the development of higher education. The method of resource allocation for higher education in Soviet Union is briefly described to indicate as to how the mechanism of resource allocation is geared to ensure the realization of objectives of the institutions of higher education. Wherever necessary reference is made to the practices in India to derive relevant conclusions on the basis of appropriate comparisons.

The plan of this paper is as follows: Section II outlines some of the major problems that are faced by the system of higher education in India. This background material is provided to assess the worthiness of the measures taken by the Soviet Union to tackle the problems of higher education in India. Section III describes the method of resource allocation in Soviet Union and spells out the advantages of the norms based distribution of funds in India. Section IV deals with various approaches and practices of Soviet Union for maintaining high quality of teaching as well as ensuring proper accountability of the university system to the society and the economy. Lastly, Section V, draws the relevant policy conclusions for bringing about reforms in the method of financing Indian higher education.

### II

Before we describe the salient features of the technique of higher education planning in USSR, it is important to enumerate some of the major problems which are confronted by the university system in India. The search for remedial measures having significant bearing on the development of

[Based on the author's report of a study visit to Peter Stucka Latvian State University, Riga, USSR.]

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higher education ought to be undertaken on continuing basis in order to ensure that university system caters to the ever changing and growing socio-economic needs of our plural society. In this context, a number of factors have to be taken into consideration to develop proper perspective and devise strategies for nurturing a sound system of higher education. Firstly, the size of higher education system in India is the third largest system in the world, after USA and USSR, and being one of the countries with lowest per capita income, even as compared to many developing countries, a major problem is to how to support and sustain the system without unduly impairing the quality of higher education or reducing the number of those who aspire for further education and have proven capability to benefit from it. Due to the increase in population as well as the rise in levels of elementary and secondary education, the demand for higher education has invariably been rising. The growth in incomes of the people and their aspiration to enhance their social status and improve cultural lives are expected to spur this demand further. The implication of which is that huge financial investments would be required for meeting the varied educational needs of Indian people. Keeping in view the competing claims of other sectors of development especially those which make direct assault on poverty and those having bearing on long term sustenance of the national economy, there is no sign of increase in allocation of resources for higher education commensurate with the rise in the demand for the same. Infact, this is precisely what has happened in the past. This therefore calls for devising low cost and efficient educational programmes which would ensure reasonable quality and quantity of education.

Secondly, inadequacy of financial resources has contributed a great deal to the deterioration of quality of education as well as impeded the efforts to bring about reforms in respect of both teaching methods and the university curricula suitable for socio-economic needs of the society. This is amply proved by the growing number of unemployed university graduates who are generally found to have inappropriate and inadequate knowledge of their subjects. Many of them have therefore become 'unemployables'. This causes sheer waste of manpower resources as well as monetary resources spent on their education. The question therefore is whether the planners in India can afford to ignore or evade this problem? As it is a serious cause of concern which ought to be addressed by the educational planners in India, we shall see later whether Soviet

experience can provide any guidance to us on this issue.

Thirdly, university teachers are the backbone of the higher education system everywhere. The role of the teaching community in India in strengthening the education system as well as helping the nation in the formation of human capital of high moral and scientific qualities has visibly diminished. The standards of education even in the courses of studies, which do not require sophisticated teaching equipment or are not lab based, have been found dismally poor. There are atleast two attributable reasons for this. One, sufficient teaching inputs from teachers are lacking. The university and college teachers have neither been teaching for stipulated period of time nor have they been paying due attention in tutorial classes to the problems of every student. They are also not using modern teaching methods to facilitate the learning process and make the teaching effective. Two, as there is a very close relationship between teaching and research, the extent of research activities and the quality of output indicate the standard of teaching at the university departments. The fact that research is neglected or given low priority at most of the teaching departments of universities, has seriously impaired the quality of higher education. The research activities at colleges which cater to about 85 per cent of university graduates of the country are almost negligible since there are neither adequate infrastructure support services nor conducive environment for research. The twin questions of enhancing qualities of teaching and research are tackled in Soviet universities with considerable success through a sound method of assessing performance of teachers to which we shall return later.

We shall discuss below as to how the planners and educationists in Soviet Union deal with such problems as above. As our primary objective has been to study the approaches employed by the Soviet Union for making allocation of resources for university development, we shall discuss this aspect in the following paragraphs and see as to how financial mechanism is employed by the planners for maintaining standards of education as well as ensuring accountability of university system to the society and national economy.

### III

The resources requirement of education budget are estimated by using norms. These norms are used in educational planning for two different

purposes : (a) the preparation of education budget, and (b) the control and checking of expenditure. This requires a large number of norms, applicable to different types of expenditure. Separate norms are laid down for each separate item of expenditure such as :

- (a) Wages and salaries
- (b) Books, journals and stationery
- (c) Administration and travel
- (d) Equipment and furniture
- (e) Repairs of buildings and equipment
- (f) Scholarships
- (g) Sports and culture
- (h) Capital expenditure

Two types of norms are laid down by the planning authorities. Firstly, physical or material norms which are expressed in physical units; and secondly, financial and budgetary norms expressed in monetary terms. Physical norms provide a basis for ensuring standardization between different institutions and for ensuring a uniform quality and satisfaction of requirements. They represent standards of relative constant value, and are determined, where possible, on the basis of scientifically determined standards, for instance, of heating and lighting requirements, etc. Thus, physical norms will not vary between regions. On the other hand, financial norms which represent the translation of physical norms into monetary terms, differ according to regions and reflect differences in prices and regional transportation, tariffs and so on.

Norms may be expressed as individual norms, corresponding to individual items of expenditure or combined norms which group together a number of individual norms, for instance, domestic expenditure, which includes cleaning, repairs and maintenance as well as heating, lighting, etc. For some purposes, a number of combined norms may be grouped together to show, for example, the total cost of maintaining a classroom.

Estimates for establishments are drawn up on the basis of individual norms. In some cases individual norms are also used for overall planning, in cases where combined norms must be made more precise due to changes in prices or basic rates of wages and salaries and amounts of grants to pupils. However, combined norms are mainly used when drawing up overall plans.

Financial norms may be expressed in terms of

expenditure per day, month or year. Norms for items such as heating, lighting, furniture and equipment are expressed in terms of annual expenditure, norms for wages and salaries or amount of stipend are expressed in terms of monthly rates, whereas norms for food and medical provisions are expressed in terms of daily expenditure.

A further distinction must be made between compulsory norms and calculated norms used simply for calculating purposes. Compulsory expenditure norms, for example, relating to wages and salaries are established by the Government. Basic wage and salary rates are laid down on the basis of teacher qualifications and length of experience and apply throughout the country. On the other hand, calculated norms, which are not compulsory and are used simply as information, reflect mean average monetary outlay per costing unit (such as classroom, pupil, square meter, etc.) in different regions or districts in the light of local conditions, prices, etc. Mean norms are used both in drawing up plan for individual items and in the overall planning of establishment. The norms are most widely used for preparation of overall plans.

In many cases the calculation of norms presents considerable problems. For example, it is extremely difficult to establish a norm for domestic expenses including heating, lighting, etc. which vary according to the location and type of school building and local characteristics. For such expenses, it is impossible to set up a uniform material or monetary norm on a scale suitable for the whole country or its sub-divisions.

The method of using norms has been adopted because of the belief that actual expenditure does not always correctly reflect an establishment's requirements. Actual expenditure may include a certain amount of non-productive outlay. For instance, in some establishments there may have been no economy in outlay on electric power, fuel or stationery. If the plan is based on actual expenditure, future expenditure on these items will simply perpetuate such inefficient use of funds.

Experience shows that planning of expenditure without use of norms might even contribute to irrational and uneconomic levels of expenditure. If expenditure is planned on the basis of actual previous expenditure, heads of establishment would endeavour to use up in full all funds provided for each item in the estimate, even if there was no need for such ex-

penditure. Moreover, if expenditure is determined in this way, identical requirements would be unevenly met in the same type of establishments. While from year to year individual establishments would receive increased allocations, others would suffer from shortages.

To obviate these defects, uniform material norms per costing unit have been worked out for domestic expenditure on the basis of individual districts and large cities. The selection of costing unit is very important for the preparation of such norms. Such selection greatly influences the correct determination of costs and the distribution of resources between the individual economic regions.

It is impossible to determine for all expenditures any single or all purpose costing unit. In the estimates for individual establishments, therefore, the norms of expenditure for wages and salaries and official journeys are drawn up in relation to one worker; the sustenance norms are drawn up in relation to one pupil; the norms for teaching expenses are drawn up in relation to each class or pupil; the norms of outlay on stipends relate to one pupil; the norms of heating costs relate to one cubic metre of space inside the building; the norms of lighting costs are related to one lighting point or one square metre of the area of the premises; the norms for expenditure on cleaning the building, yard and street and other domestic expenses are related to one cubic metre of the premises, etc.

To sum up, planning authorities in Soviet Union believe that the use of norms rather than previous levels of expenditure for estimating future expenditure will achieve two objectives, namely, to satisfy requirements as fully as possible at a given stage, and to make the most rational and economic use of material and monetary resources.

Thus, the resources for university education are made available on the basis of defined norms, which

(i) allow for adjustments in monetary requirements from year to year due to changes in either prices or teaching load or special needs arising from changes in teaching methods, etc;

(ii) ensure equity in provision of educational infrastructure among the various institutions of higher education which, in turn, assist in maintaining uniform standard of education among different universities;

(iii) provide adequate resources for various programmes of studies in accordance with their requirements;

(iv) discourage overspending and check diversion

of resources from one item to another and thus ensure efficiency in resource allocation and its utilization; and

(v) encourage the institutions of higher education to make similar attempt to plan for physical and financial resources and their effective utilization.

#### IV

In addition to the above advantages, another significant feature of educational planning in Soviet Union is that the approach of manpower planning is effectively pursued throughout the country. The application of this approach has helped (i) in controlling the number of graduates and specialists to be produced and trained under each field of studies as per the assessed needs of the economy; and (ii) in maintenance of uniform standards of education among all the universities. It is important that once the number of required graduates and specialists of different kinds and levels of expertise is determined on the basis of needs of various regions and sectors of the economy, financial resources are accordingly made available as per the defined norms to each university/institute. Since the Soviet Union follows a perspective plan for 5 and 15 years it is possible to assess requirements for graduates from time to time which in turn help/avoid the problem of shortages or surpluses of graduates in the country.

As regards the quality of education, every effort is made to ensure continuous improvements in standards of teaching. Some of the noteworthy features of the method of maintaining high quality of education may be described here.

First, each teaching and research department receives adequate amount of money on the basis of the well defined norms and student numbers as explained above. Every teaching department thus maintains basic and essential educational infrastructural facilities. The question of under funding as is the case with most university departments in India does not arise. The method of resource allocation ensures necessary provision for teaching and research which protects the system from degradation.

Second, in every university of Soviet Union it is obligatory for every department to conduct research in theoretical and applied areas and engage in contract research programmes from various cooperatives/governmental organisations. The research activities promote the twin objectives of : (a) earning additional incomes which are used for improving the infrastructural facilities of the teaching departments which, in turn, attract best students and teachers as well as enhance reputation of the university; and

(b) raising the quality of teaching inputs drawn from research outputs pertaining to both the relevant curricula and teaching methods and the requirements of the society. As the universities earn a significant portion of their income (about 20 per cent) from such consultancy research programmes, the above aspect of research help in the maintenance of high standard of education among the universities.

Third, every university teacher has to compulsorily engage in research programmes with a view to enriching his theoretical knowledge as well as making positive contributions to socio-economic life of the people, because the quality of research and the quality of teaching are positively related. This alone can help the teachers stay in the profession and the job. The mechanism of evaluation of teacher's performance is also very strong in the Soviet Union. A number of factors are taken into account for encouraging and retaining the best teachers in the system: (i) Students make assessment of performance of the teachers teaching them and every teacher has to teach for the stipulated number of hours; (ii) Based on students' evaluation and the quality of research conducted by the teachers, the head of the department makes his own assessment and accordingly directs the teachers from time to time so as to maintain a high standard of teaching; (iii) The employers of graduates/specialists provide some feedback to universities in respect of their attitude to work and the quality of job performance; (iv) Every five years there is thorough assessment of teachers' performance by the competent university authorities through the secret voting system. In order to renew the term of appointment of a teacher, the university authorities take into account various factors pertaining to the quality of teaching and research work done by a teacher over the previous five years. In such evaluation process, only the best teachers stay in the teaching profession.

The question of accountability of university system to the society and the extent of relevance of the educational programmes to the social and economic needs of the people have always been a major concern of governments everywhere since they finance the system. The intensity of such problems however vary greatly. It is invariably felt more seriously in developing countries like India which invest scarce resources on higher education and research with the expectation of enriching inputs to productive activities so as to expedite the process of development. In this respect the answer to the question as to what kinds of measures are taken in the Soviet Union to enhance the productivity in university system would be most interesting.

In the recent reforms of university education, an attempt is being made to ensure that the universities serve more to the productive interests of enterprises and organisations which are devoted to economic and social development. Following the manpower approach to educational planning, the students pursuing for degree courses or for equivalent specialized degrees, would be sponsored by different enterprises/organisations under the various Ministries in proportion of their requirements for fresh intake or recruitment in the future years. The enterprises would, in turn, pay a fixed sum of money per graduate student to the parent university. The income thus earned would be treated as additional income for the university till 1990 and thereafter the university would have to depend substantially on such incomes for sustenance. Obviously, the university which would (a) pursue such educational programmes as would cater relatively more to social and economic needs and help improve quality of output and enhance productivity in sphere of development, and (b) produce graduates/specialists of high quality, might be able to attract more sponsored students. This would obviously mean more monetary resources, high national reputation and prestige for such universities. Such a measure is thus expected to increase competitiveness among the universities for attracting an increasingly large number of sponsored students which would also mean more funds from enterprises. Curiously enough, every step is being taken by the Govt. to ensure that this reformative step succeeds which is most likely in a disciplined society like USSR.

## V

The following relevant points emerge for consideration for orientation of higher education policy in India.

(1) There is no effective planning in higher education in India. This aspect needs to be given serious thought lest the existing problems should acquire unmanageable proportions. For instance, the number of colleges producing graduates are increasing beyond 5000 even though there are neither adequate basic facilities for teaching and research nor enough number of students to justify the existence of several hundred colleges. There are several university departments which lack infrastructural facilities and competent teachers, yet they are producing graduates who either remain unemployed or their productive capacity is much less than desired.

In such a situation, the approach of manpower planning, which essentially means that production of as many graduates as may be required by the society

and the economy, would provide an effective solution to the existing problem of proliferation of non-viable colleges and swelling number of unemployable university graduates. It must be emphasised that technical aspects of manpower planning approach are much easier to tackle not only in centrally planned socialist countries but also in mixed economies like India which have strong bases of the State and Central level of planning. In accordance with the magnitude and location of financial investments by regions and economic projects, manpower requirements of various kinds and levels could be determined and through the planning process adequate number or labour force with different levels of specialization could be produced by the universities and other institutions of higher learning. This would however require preparation of perspective plans which would take into account physical and financial investable resources as well as the nature of technologies to be employed for realizing optimum results.

(2) In order to ensure production of high quality graduates specialists, it is important to provide for adequate infrastructural facilities for teaching and research. In this respect, advantage may be taken of the experience of Soviet Union especially in regard to norms based allocation of resources amongst the university departments. As described elsewhere in this paper, allocation of resources on the basis of norms ensures adequacy of funds, raises efficiency and productivity of monetary resources, discourages diversion of funds and ensure equity in distribution of resources among all the universities; which, in turn, result in uniform educational standards in the country.

As against this, the prevailing system of funding universities in India is unsound as the same is neither based on scientific principles nor meets the requirements of the universities. In India, the universities institutions of higher education are financed by different sources such as Department of Education of the Central Ministry of Human Resource Development in the case of IITs and Institutions of National Importance, UGC in the case of Central Universities and Deemed to be universities, Indian Council of Agricultural Research in the case of Agricultural Universities and the State Govts. in the case of State universities and colleges. Some aspects of financing are jointly undertaken by two or more than two of the above agencies. Different funding agencies adopt different methods of allocation even for the similar programmes of studies which are generally neither efficient nor equitable. The available literature on the subject in India proves this point.

In order to minimise the ills of funding problems of universities, it would be worthwhile to follow the approach of resource allocation on the basis of standard norms for various items of expenditure under the different programmes of studies. As education is included in the concurrent list of the Constitution which is committed to ensuring equality of opportunity in every sphere of development, the uniform basis of distribution of Government funds is more desirable. It is important to point out that norms based allocation of resources allows for variations arising from special characteristics of course contents or regional location of the institutions. Such an approach would thus effect equity across the institutions and regions which would be consistent with the objectives of federal set up.

(3) There has been much theoretical discussion with regard to the extent of contributions made by university teachers in improving the efficiency of higher education. There has however been little practical gain owing largely to non-existent or inefficient system of evaluation of teachers' performance. There is hardly any instance to prove that any worthwhile attempt has been made in the past in India to identify unproductive or redundant teachers in the universities, let alone cleansing the teaching profession by driving such teachers out of universities. In this sphere, there is a lot to learn from the experience of Soviet Union which regularly monitors the performance of university teachers as we have already discussed above. In order to make the university system in India more socially and economically productive, it is imperative to entrust the system to competent teachers.

The profession of teaching cannot be divorced from research. The affiliated colleges in India which produce nearly 85 per cent of graduates do not have conducive environment for research. The reasons may be many, but the point is for how long educational planners in India would continue to envisage improvements in standards of teaching in such colleges without generating research activities. It is equally important to gauge the quality of research so as to provide desirable feedback into the teaching process. What follows is that teaching profession ought to be vitalized by retaining the best teachers whose performance should be regularly assessed on the basis of qualitative research and teaching. The dumping of qualitatively poor graduates and specialists would generate inefficiencies in management of national investments in economic and social programmes for development. This ought to be resisted even at some cost.

(4) The prevailing system of financing universities by the Centre and the State Governments allows for the simultaneous existence of the best or worst performing university departments, as judged from the quality of the graduates produced by them. Though there may be differences in the levels of grants received by them, they continue to co-exist and make increasing claims for govt. funds. This is because there is no effective measure either to improve the quality of teaching by using the financial mechanism or to let the inefficient departments be rooted out through the process of intense competition from the best performing departments. The main reason for this is that the Centre and the State governments provide funds to the universities on the basis of past trends and the future plans rather than performance in teaching or efficient utilization of funds. The recent approach of Soviet Union offer a solution to this problem as we shall discuss below.

In order to increase the returns from investments on higher education, it is desirable to increase competitiveness among universities and the allocation of resources should be linked with the performance of university departments as judged from quality and quantity of graduates produced by them. This objective can however be realized by direct financing of students rather than universities institutions. The advantages of this approach are : (i) students would join the departments which they expect would give the best education to them, (ii) students would compete for the limited government funds, in which case the students with proven capacity to learn would have the chance of receiving government support, and

(iii) since the students would be responsible to pay for their education fully or partly, they and their parents would become more vocal about the quality and relevance of education offered by the universities. Moreover, another advantage of this approach is that it is possible to make obligatory for the government sponsored students to serve the country for certain number of years after completing the course work. This would effectively check the phenomenon of brain drain and thus minimise the wastage of scarce resources invested on them.

It is worthwhile to mention that the UGC has already been following the approach of direct financing of students for research degrees in various disciplines. Many teaching departments have come to realise about the poor quality of teaching with them as their students cannot compete and qualify for research fellowships. Such aspects need to be highlighted at various forums so as to sensitize all the sections which are affected by teaching performance of universities. In brief, what is being suggested here is to finance higher education through students rather than the institutions which seem to yield less than optimum results. This is amply clear from the fact that of the total enrolment in higher education about 60 per cent pass out and those who do so less than 25 per cent of them score above 50 per cent marks. This therefore justifies the policy option indicated above. □

*[The views expressed in this paper are those of the author and they should not be attributed to the organisation to which he is affiliated]*

## CULTURAL DIMENSIONS OF THE MAKING OF MODERN INDIA

*(Continued from page 1)*

her long history, her religion and her heritage had made India a very different land. All great Indian thinkers and leaders of the modern period, from Rammohun Roy to Rabindranath Tagore, Bankimchandra to Vivekananda, Gandhiji to Jawaharlal Nehru and Indira Gandhi, drank deep from the nation's ideological and cultural reservoir of the present world. It will be impossible to realize why India chose to be a secular democratic state with an independent judiciary and self-government at the Panchayat level, unless the inner personalities and the mental make up of such men are taken into consideration.

It is also in the above context that the evolution of education and the formulation of the New Education Policy in India is to be understood and assessed. Historically, India has the tradition of encouraging a global perspective in education imparted in the educational institutions, especially at the University level. Tagore had once regretted that there were scientists who took pride in their knowledge of "human facts, without taking the trouble to know the man himself." Swami Vivekananda's vision of education as an instrument of man-making or

Gandhiji's concept of basic education as a religion of service have hardly materialised in the field of education either in India or abroad. Yet, the emphasis on Man and the lofty universal aspect of their educational ideas continue to have a strong grip on our minds. The new Education Policy also has this as one of its goals. The Commonwealth or the Association of Commonwealth Universities and similar international bodies are also motivated by such ideas. Hence, the Indian historical experience is of great relevance to other countries.

The relation between education and culture and the role of the universities in disseminating culture and functioning as custodian of culture pose serious questions. Rabindranath Tagore said, 'Education is diamond, its glow is culture.' Does the education that is being given in the universities conform to this ideal ? The Indian universities, in general, have not been able to play their expected role in the field of culture. This is true of most universities in many other countries. A fuller analysis and debate on these issues should be encouraged by the universities. □

# THE BRAIN DRAIN LOSS

"The biggest loss to the community due to brain drain has been to the teaching profession. Teaching requires a gift in much the same way as music or mathematics and the loss of potential teachers of quality has a cyclic effect on the quality of academic life," observed the noted scientist, Dr. Raja Ramanna, Chairman of the Governing Council of the Indian Institute of Science, Bangalore. Dr. Ramanna was delivering the convocation address at the first annual convocation of the Alagappa University, Karaikudi. Excerpts

The mere possession of a degree is still a long way off from being useful straightway. What is perhaps more important is to be able to use the knowledge you have acquired, in such a manner, that it leads to something that is creative. Creativity is an aim which all young men all over the world, would want to strive for and the time for important decision-making towards this aim is when one is about to leave the university. A university degree by itself is not

best musicians usually hail from families who are themselves musicians.

Another field of knowledge where one's gifts have to be assessed and nurtured early is the field of mathematics. While mathematicians continue to be productive till late in life, it has been observed that the capability of a mathematician can be destroyed, if he does not get the right education before, say, the age of eighteen. The one great exception

To me, he is the greatest man Tamil Nadu has ever produced. It requires greatness to understand greatness and the credit of this goes to the atmosphere of Cambridge of those days. He was unable to get beyond a matriculation in Madras, but from the research papers he sent to Cambridge, he received all the Academic Honours any body could hope for. I specially make a reference to Srinivasa Ramanujan, as his life in a way sets a limit to what can be done under the most adverse of circumstances.

On the other end of the spectrum of knowledge are medical science and engineering. These disciplines require considerable experience and long years of observation and assimilation. Here, creativity appears as the result of integrated knowledge acquired over many years of patient study. Generally, progress in technology and knowledge involving interdisciplinary studies require more maturity and a wider understanding of human nature.

A cynic could say: we now produce many more people than ever before with high sounding University degrees, but there seems to be no sign of more Ramanujans, Ramans or even just quality engineers. I ask you, does this question have any validity?

The answer to this requires a deep examination of both sides of the case. A misreading of the situation and our faulty sociological structure are responsible for such views but the comment, as such, cannot be brushed away.

The brain drain, which started as a trickle in the 60's from a minority but gifted group, has reached proportions of unbelievable magnitude. I am told that from the I.I.T. Madras, as many as 35% of the graduates migrate which include some of the best among them. Some brilliant and

## Convocation

yet a measure of one's capacity to do new things. Creativity requires experience and cannot be obtained from books alone. Your teachers can help and interaction with others who have specialised knowledge adds to creative ability.

It is an interesting study how in different fields of knowledge the capability to be creative shows itself at different stages of one's life. In the Arts, e.g., in Music, one's gifts are noticeable at a very early age perhaps between the age of four and six and the associated training, which determines the future has to start at this early stage. It is for this reason the

to this is from Tamilnadu itself, where one of the greatest mathematicians of the world, Srinivasa Ramanujan, was born and survived bad training, bad libraries and a bad environment for creativity, but went on to amaze the world with his natural gifts. Unfortunately, we in India still confuse arithmetical ability with mathematics. That he could write down complex formulae, which belong to the forefront of mathematics, most of them without proof and whose proofs have now been supplied with the help of mathematics, which did not exist in his time, proclaim his genius and greatness.

committed men do, however, stay on, but feel very apologetic about what they have done. Both the teachers and parents are responsible for creating a feeling that if one does not migrate there must be something wrong with the person concerned. The brain drain is responsible for the severe loss of talent which the country can hardly afford financially or otherwise. Whatever is said about brain drain being our brain's trust, it is going to have serious repercussions on our progress in the years to come.

One would have thought that those going abroad would have done sufficiently well so as to capture the Academic community in the country, they have migrated to. Though much is said about the excellent things that non-resident Indians are supposed to be doing abroad, I cannot say that they have done so well as people make it out to be. I agree that they do make more money, but it is sad to see these brilliant young men, who could have made an excellent career here, taking up lowly post abroad only for the purposes of enjoying a higher standard of living, (not an Indian standard for happiness), knowing fully well that even the most menial of jobs in the West are well paid. I can understand people, who feel academically discriminated, wanting to migrate, but for the others to leave home and hearth to acquire wealth knowing that at best they will be second-rate citizens for quite a few generations, is tragic.

The biggest loss to the community due to brain drain has been to the teaching profession. Teaching requires a gift in much the same way as music or mathematics and the loss of potential teachers of quality has a cyclic effect on the quality of academic life. The loss of inspired teaching gives rise to slipshod-work, careless solutions

and a disregard for bringing out one's best. To the public, it shows itself as faulty transmission lines, impossible telephone systems, roadways which are not worth the name, Ph.D. theses which have no academic value, copying, etc. Mediocrity produces loss of enthusiasm leading directly to loss of quality. All this leads to the feeling that a good job within the country is where the work requires, not a dynamic man wanting to do something creative using both his hands and brains, but one who sits at a table and while away his time. It is not clear what it is, in our society, has led us to an ideal and an environment that,

even the most dynamic and creative of persons, is reduced to mediocrity. I say all this because, I know that we have some of the best people in the world and we are capable of the highest of standards. What makes one sad is that we can do so much more than what we have actually achieved.

I have placed these views before you, not to give you the impression that we are a lost country, far from it, but merely to review our system so that we can rectify its faults and weaknesses in time. Our greatest enemy is complacency and this has done much harm in the past. □

#### Attention Scientists and Technologists

## Indian Expertise in Science and Technology

The Research Cell in Economics of Education of the Association of Indian Universities is conducting a survey of Indian expertise in science and technology in the University sector. It is proposed to prepare a comprehensive database of the skills, knowledge and facilities of the university level institutions as well as a directory of experts in various disciplines of science and technology. The survey is also intended to catalogue the expertise and current research work of Indian scientists and technologists in various fields of science and technology, and will be used as an input for the compilation of a comprehensive database on the scientific and technical manpower in the country. The database will provide a ready reference to the industry, commerce and allied sectors of Indian economy for identifying experts in the relevant fields.

The scientists and technologists engaged in teaching and research in the universities and university level research institutions in India at the lecturer or equivalent and above levels only are requested to fill-up the prescribed form, which can be had from the undersigned. The completed form should be returned latest by September 30, 1988.

The responses from the academic and research staff are solicited, and their cooperation would be highly appreciated in our venture to build up a comprehensive database. For the prescribed form, kindly write to :

M. M. Ansari  
Joint Director  
Research Cell, Economics of Education  
Association of Indian Universities  
AIU House, 16 Kotla Marg,  
NEW DELHI 110 002

# Social Science Information Problems and Prospects

A three-day National Seminar on Social Science Information Problems and Prospects was organised by the North Eastern Hill University (NEHU). Prof. R.K. Mishra, Vice-Chancellor, NEHU, inaugurated the seminar while the valedictory address was delivered by Prof. J.B. Bhattacharjee, Dean, School of Social Sciences, NEHU.

The seminar discussed four themes spread over seven academic sessions at which 44 presentations were made.

The first theme discussed the structure and development of social sciences. The ten presentations thereon focussed attention on the disciplines of sociology, economics, geography, social science research in India and North-Eastern region with emphasis on trends, dissemination of information, problems and prospects.

Information needs and user studies, in ten presentations, was the second theme. The discussions centred around two major areas: meanings of information and information needs; and information use patterns and information seeking behaviour of user. Issues under the former were tackled at the theoretical level while the issues under the latter were highlighted with the help of empirical knowledge on various aspects.

The third theme was concerned with the characteristics of social science literature and its availability. 14 papers were presented under this theme and the focus of discussion was on the types and characteristics of literature avail-

able for social science research in general, and information needs in the form of literature for researches in the field of history, anthropology and area studies like Pakistan, in particular.

The fourth theme discussed the aspects of information system, services and planning with the help of 7 papers. One paper discussed the relevance of international information systems for India while another presented a plan for the North Eastern Regional Social Science Documentation and Information System. Other papers discussed the problems and possibilities of information technology, information for social services such as health care services, etc.

At the conclusion of the seminar, the following recommendations were made:

- (1) The UGC and ICSSR should identify the scope of various social science disciplines to clearly demarcate their areas of research, and also to identify thrust areas.
- (2) Appropriate user studies be conducted and adequate financial assistance provided by concerned organisations for such studies.
- (3) With a view to providing appropriate assistance to the information-seekers, adequate financial assistance and other professional guidance be provided to libraries and documentation / information centres and steps taken to build up balanced library collections to help research activity carried out by the information-seekers in social sciences.
- (4) There should be regular interaction between the information seekers and the library / information centres through seminars, conferences, workshops, etc. in view of the enormous growth of literature in various social science disciplines and large inflow of research funds.
- (5) Indexing, abstracting and bibliographic tools be compiled in various disciplines. Maintaining that the research activity cannot be effective and productive without specifying, well accessible source materials in social sciences, it was further recommended that all possible steps be initiated to index and make available information sources in each discipline for the promotion of research in social sciences.
- (6) For research on neighbouring countries, it was decided that the Govt. of India and other concerned authorities be approached to set up a national centre for collection, dissemination, and utilisation of documentary and non-documentary information on such countries. However, in view of the urgency of the situation obtaining in the country, a national centre on Pakistan studies be set up immediately with adequate resources at its disposal.
- (7) A centre be established as Regional Data Centre to acquire and process information on North-East India from various sources for purposes of dissemination of information.

(8) The nature of social science research literature calls for specialised library and information science manpower to handle the requirements of social scientists. The seminar recommended that specialised library and information science courses on social science information may be provided at select institutions.

(9) To enable the social scientists use various types of information/data in their research, data banks should be set up to study and retrieve such information regularly. Such data banks could be established at regional levels with an apex body at the Centre to coordinate activities among the regional data centres.

(10) In order to familiarise with the research methodologies of various social science disciplines the seminar recommended that:

- (a) Courses on research methodology be made compulsory in the Master's degree programmes of various disciplines including that of Library and Information Science; and
- (b) The Library and Information specialists should conduct specialised courses for social science user groups to educate them in use of available information sources. This may, in turn, help in understanding their information gathering habits as well.

(k) Mycorrhizae—its Biotechnology.

This Workshop is the follow up of the first National Mycorrhizae Workshop which was organised in New Delhi in March last year by the Jawaharlal Nehru University and International Development Research Council of Canada, duly supported by various other agencies like UNESCO, DST, DNES, CSIR and ICAR. The National Workshop had identified areas of duplication and cases of obsolete research and recognised the need for regular contacts to promote cooperation, exchange of information and exchange of germplasm.

The International Symposium to be held during December 19-21 would cover the following: (a) Functional analysis of the ultra-structure; (b) Molecular concepts and genetic manipulation; (c) Practical applications; (d) Agro-forestry; (e) Food and Feed; (f) Reclaiming waste land, used coal mines and sand dunes; (g) Arresting desertification; (h) Biotechnological breakthrough in mass production, preservation and transfer as Biofertilizer; Role in Disease resistance; Nutrient mobilization; and Combating drought stress.

The topics proposed to be discussed at the plenary session include: Preservation of germplasm; Isolation, staining and systematics; Cytology and genetics; Concepts in physiology and biochemistry; and Host-plant resistance to bacteria, virus, fungi, insects and nematodes Interaction with other soil microbes.

*Further information and details can be had from Dr. Ajit K. Verma, School of Life Sciences, Jawaharlal Nehru University, New Delhi.*

## **Mycorrhizae and its Biotechnology**

An international Symposium and a Regional Training Workshop on "Basics of Mycorrhizae and its Biotechnology" will be held at the Jawaharlal Nehru University from 7-18 December, 1989. About 25 participants and 10 specialists from India and abroad are likely to attend this Workshop/Symposium. The main purpose of this Workshop is to encourage young scientists to initiate and promote the Mycorrhizae researches at their respective institutions. The Workshop, among other things would cover the following topics:

- (a) Screening, diagnostic features, fluorescent anti-body and ultra-structural analysis of Mycorrhizal fungi;
- (b) Cytology and Histochemical studies;
- (c) Growth kinetics of Ectomycorrhizae in pure culture and its evaluation;

- (d) Aseptic spore germination of VAM, photoplast fusion, genetic analysis, pattern formation and cultivation on tissue/callus tissues;
- (e) DNA restriction fragments analysis;
- (f) Determination of polyphosphate granules (energy dispersive X-ray analysis) photophosphatases, RNA and protein patterns;
- (g) Genetic analysis of irradiated (alpha, beta and gamma) Mycorrhizal spores and the genetic manipulation;
- (h) Mass inoculum production, storage, transfer and germplasm preservation;
- (i) Mobilisation of nutrients, water (Radio tracer techniques);
- (j) Cell metabolites analysis using Spectrophotometry and gel Electrophoresis; and

## Courses in Textile & Sugar Technology

Guru Nanak Dev University proposes to start new degree courses in textile technology and sugar technology. The university has also decided to set up a new department of applied linguistics in the School of Punjabi Studies from the next academic session. This was revealed by Dr. G. S. Randhawa, Vice-Chancellor, while addressing a meeting of the Senate recently.

Dr. Randhawa said the university was endeavouring to start more job-oriented courses and the courses in the School of Life Sciences, Physics and Chemistry Departments were being modified in such a way that they could meet the challenges being faced by the society today.

A UGC Academic Staff College has already started functioning on the university campus to provide orientation courses to the college and university teachers. A youth training centre would also be set up on the campus by the Directorate of Youth Services, Punjab.

Dr. Randhawa said that he would approach the Punjab Government to acquire land for the construction of the university's regional centre campus at Jalandhar. The university also proposes to start a postgraduate diploma course in journalism at Jalandhar. The Vice-Chancellor said the university would approach the Punjab Government for the release of the Rs. 25 lakh grant as already announced by the Governor for the construction of Guru Nanak Bhavan.

Mr. Amrik Singh Pooni, State Education Secretary, assured the members that the Government would provide adequate financial

assistance to the university for the development of projects and for starting job oriented courses. He also assured that there would be no retrenchment of college teachers due to the shifting of the +2 classes from the colleges to the schools from 1990.

## Computer Science Courses

The Postgraduate and Research Institute of the Dakshina Bharat Hindi Prachar Sabha, Hyderabad, which has been conducting a diploma course in computer science and word processing in Hindi for the past two years, is also now offering courses in computer sciences, multilingual word processing and data entry operation in Hindi, Telugu and English. This was stated by Mr. V. Anjaneya Sarnia, Registrar of the Institute.

The Rs. 30-lakh computer at Hyderabad and at Madras where the Sabha runs similar courses, has tri-lingual word processors—"lipi" developed by the CMC Limited, BBC micro-computers with colour facilities and sound synthesis, a mini-computer, a set of personal computers and bi-lingual word processors.

The Hyderabad centre has a mini-computer, a set of personal computers and bi-lingual word processors. It has "lipi" in English, Hindi and Telugu, while at Madras Tamil has been substituted for Telugu.

## Computer Aided Library & Information System

The Department of Library and Information Science of North-Eastern Hill University organised a Workshop on Computer-Aided Library and Information Systems and use of CDS/ISIS Retrieval System in collaboration with

IASLIC and NISSAT from 23-28 May, 1988. The workshop was inaugurated by Prof. S.K. Agrawala, Secretary, Association of Indian Universities.

The objective of the workshop was to introduce the Library personnel working in North-Eastern Region to computer applications in libraries and use of CDS/ISIS Retrieval system. The following areas formed the course content : (a) Computer system : An overview, (b) Computer Application, (c) Software requirements for LIS house keeping functions, (d) Standards for Input/Output, (e) System utilities, (f) Software modules and house keeping, (g) CDS/ISIS : Introduction, Formatting/Editing, (h) Database creation, (i) Inverted File Construction, (j) ISIS user programme, and (k) System Selection : Basic Considerations.

Over 25 participants from Guwahati, Jorhat, Tura, Shillong, Imphal, Itanagar, Calcutta, Dibrugarh, Aizawl, New Delhi, Agartala and Kharagpur, participated in the workshop at which practical demonstrations and group discussions were also organised.

## Academic Staff College at Gauhati Varsity

The Gauhati University has established an Academic Staff College for organising orientation courses for newly appointed university/college lecturers and refresher courses for the in-service teachers. The first such course is expected to start sometime towards the end of July 1988.

The Academic Staff College will also serve as catchment area covering the Universities of Gauhati, Manipur and Dibrugarh and the affiliated colleges. The College will function under the guidance and control of an Acad-

mic Advisory Committee under the Chairmanship of Vice-Chancellor, Prof. D.P. Barooah.

### Orientation Programme for Administrators

The Ministry of Human Resource Development proposes, it is reported, to start this year a massive orientation programme for education administrators at district and block level. The programme will initially cover 10,000 personnel working as educational administrators right up to district and block levels. The National Institute of Educational Planning and Administration (NIEPA) will provide basic course material and facilities for this programme.

The programme is being undertaken to involve people in the process of management of education and administration as envisaged in the national policy on education. The main objective of the orientation programme is to develop awareness about planning and management. It will focus attention on operational modalities and the role and performance of various functionaries in the field of educational training and management.

### Student Counselling and Employment Cell

The Gujarat Vidyapith set up in October 1987 a Student Counselling and Employment Cell to tender advice and guidance to students from rural and tribal villages in matters of admission, career and employment as also to provide individual counselling in solving their personal problems. In this short span, the Cell has identified potential employers, full-time and part time job placements, prepared students to face career/job interviews, administered person-

ality traits tests and offered individual and group counselling on personal problems. The Cell has identified 55 employer agencies, who intimated 258 vacancies. 125 student candidates were advised to apply for these vacancies. 175 students were prepared for successful career interviews. In May-June 1988 vacations, temporary employment was secured for 25 students on an average for Rs. 800/- to 1000/- per head plus free boarding and lodging facilities provided by the employer agencies

for conducting famine relief programmes. Career talks, group discussions and agency visits were organised for 450 students. 25 School/College career teachers attended a four day career workshop held at Gujarat Vidyapith, Ahmedabad. 20 students were motivated for self employment pursuits. Personality traits test was administered to 40 students.

The Cell will welcome exchange of information with similar agencies in all Universities.



### Inter University Youth Festival 1988

*If I were to look over the whole world to find out the country most richly endowed with all the culture, wealth, power and beauty that nature can bestow in some parts of paradise on earth - I should point to INDIA.*

— Max Mueller

Culturally, India is the most complex, multilayered and multi-dimensional land. Fairs and festivals have played a vital role in sustaining and fostering our cultural heritage. Indian calendar is indeed an unending procession of festivals—religious, social, cultural and seasonal.

Inter University Youth Festivals have been instrumental in promoting Indian art and culture amongst the university youth. As will be recalled, the youth festivals had been discontinued two decades ago and the Association of Indian Universities (AIU) realising their potential in fostering dynamism in the youth revived the Inter University Youth Festivals in 1985, coinciding with the International Youth Year. NAMYFEST celebrations still tickle the memory of the youth. These festivals provide

a forum to the young university artists to give expression to their creative instincts.

AIU has invited proposals from various universities for hosting the Inter University Zonal and National Youth Festivals for the session 1988-89. In the first instance, four Inter University Zonal Youth Festivals will be held in which universities falling in the respective zones would be invited to participate. Thirty participants per university, including officials and accompanists, will participate in the Zonal Youth Festivals. Selected participants from each of the four zones would be invited to the Inter University National Youth Festival.

The programme of the Youth Festivals comprises five major events viz. Music, Dance, Theatre, Fine Arts and Literary Activity. It is hoped that Festivals will be allotted to the contending universities by the month end.

# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

## RESEARCH IN PROGRESS

### A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

#### SOCIAL SCIENCES

##### Sociology

1. Ahluwalia, Ruchira. *Professionals in the making: A sociological study of medical students in Medical Colleges, Rourkela*. Panjab. Prof. K.P. Singh, Department of Sociology, Panjab University, Chandigarh.

2. Chitra, S.S. *A comparative study of the processes of communication among the tribes of Nilgiris*. Kerala. Dr. J.V. Vilvillam, Prof. and Head, Department of Communication and Journalism, University of Kerala, Trivandrum.

3. Nema, Shrikha. *Julia Nayar ke Hindu samaj mein dahej*. Devi Ahilya. Dr. V.C. Tongia, Prof. and Head, Department of Sociology, PMB Gujarati Arts and Law College, Indore.

4. Sachdeva, Rekha. *Socialization of the child in an industrial society, with special reference to slum areas of Indore*. Devi Ahilya. Dr. K.P. Pothan, Prof. and Head, Department of Sociology, Indore Christian College, Indore.

5. Sivan, Y. S. *Social and psychological adjustment of elderly Nayar women in Kerala*. Kerala. Dr. M. Indukumar, Department of Sociology, University of Kerala, Kariavattom.

6. Ugin Gomez, J. *Causes and consequences of child labour, Kerala*. Kerala. Dr. Manu Bhaskar, Department of Sociology, University of Kerala, Kariavattom.

#### Political Science

1. Mohanakumar, K. *Ethnic crisis in Sri Lanka*. Kerala. Dr. P. John John, Prof., Bishop Moore College, Mavelikara.

#### Economics

1. Awasthi, Surendra Kumar. *Socio-economic study of infantry officers of the Indian army*. Devi Ahilya. Dr. R.K. Dubey, Dean, Students' Welfare, Devi Ahilya Vishwavidyalaya, Indore.

2. Bohare, Niharika. *Dakshin Pashchim Madhya Pradesh janjati shram ka arthik shoshan*. Devi Ahilya. Dr. (Mrs.) T.K. Vajdi, Reader, Department of Economics, Devi Ahilya Vishwavidyalaya, Indore.

3. Dalbir Singh. *Common property resources and rural economy in Himachal Pradesh*. HP. Dr. M.S. Rather, Department of Economics, Himachal Pradesh University, Shimla and Dr. N.K. Sharda, Department of Economics, Himachal Pradesh University, Shimla.

4. Dubey, Hari Om. *M.P. mein vanki vikas kee samsya evam samjhavayen : Damoh Jile ke sandarbh mein vishesh vidhyayan*. HS Govt. Dr. N.D. Goswami.

5. Geersagar, S.V. *Economic analysis of working and impact of regional rural banks with special reference to Ratnagiri Sindhudurg Gramin Bank*. Shivaji. Dr. S.S. Sahasrabudhe,

**Chh. Shahu Central Institute of Business Education and Research, Kolhapur.**

6. Jain, Ajit Kumar. *Deendayal Upadhyaya ke arthik vicharon ka vishleshan evam vartman Bharat mein unke auchitya ka parichaya*. HS Govt. Dr. P.K. Patankar, Reader, Department of Economics, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

7. Jain, Chandresh Kumar. *Sagar Sambhag ke Damoh Jile mein State Bank of India, Lead Bank dwara krishi ka vitt poshan*. HS Govt. Dr. B.K. Jain, Department of Commerce, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

8. Jain, Seema. *Krishi upaj ripnay : Samsyayen evam sambhavayen : Sagar Sambhag ke vishesh sandarbh mein*. HS Govt. Dr. M.D. Goswami, Shaskiya Balak Mahavidyalaya, Sagar.

9. Khambete, Jayeshree Devdatta. *A comparative study of EGS and IRDP schemes with special reference to Satara District*. Shivaji. Dr. Sahasrabudhe, Chh. Shahu Central Institute of Business Education and Research, Kolhapur.

10. Khare, Krishna. *A study of economic development of Baghel Khand region : An inter district comparision*. HS Govt. Dr. O.P. Mishra, Govt. Girls College, Sagar.

**Law**

1. Kastekar, Vandana. *Study of law pertaining to Juvenile delinquency in India specially relating to M.P.* Devi Ahilya. Dr. G.C. Kasliwal, 24 Sarvodaya Nagar, Indore.

2. Vijaywargiya, Kukulita. *Problems of judicial independence in India : A critical and comparative study*. Devi Ahilya. Dr. G.C. Kasliwal, 24 Sarvodaya Nagar, Indore.

**Military Studies**

1. Jain, Vinod Kumar. *Geostrategic considerations and weapon systems with special reference to the security of India*. Devi Ahilya. Dr. O.P. Sharma, Department of Military Studies, Govt. P.G. College, Mhow.

**Commerce**

1. Patil, V.S. *Causal analysis of changes in labour force participation rates vis-a-vis manpower planning in India with special reference to Maharashtra*. Shivaji. Dr. R.M. Tungare, Chh. Shahu Central Institute of Business Education and Research, Kolhapur.

2. Sarmah, Smriti Rekha. *Micro level planning : A case study of Sarupathar*. Manipur.

**HUMANITIES**

**Philosophy**

1. Kamalam, R. *Concept of God in the philosophy of Whitehead*. Kerala. Dr. K. Saratchandran, Prof. and Head, Department of Philosophy, University of Kerala, Kariavattom.

2. Radha Rani, P. *Gandhi and world religion*. Kerala. Dr. K. Saratchandran, Prof. and Head, Department of Philosophy, University of Kerala, Kariavattom.

**Language & Literature**

**English**

1. Rathi, S. B. *Fantasy in Miss Iris Murdoch's fiction*. Shivaji. Dr. S.B. Sagare, Department of English, S.B. Zadbuke Mahavidyalaya, Barsi, Distt. Solapur.

**Sanskrit**

1. Champa Devi. *Shaddarshan mein chitra kritiyon ka sameekshatmak adhyayan*. HP. Dr. Nardeo Shastri, Department of Sanskrit, Himachal Pradesh University, Shimla.

2. Sharma, Kishori Lal. *Mahabharat mein vastukala*. HP. Dr. (Mrs) Vidya Devi, Department of Sanskrit, Himachal Pradesh University, Shimla.

3. Vijayvargiya, Vimla. *Mudrarakshas natak ka manovigyanik adhyayan*. Devi Ahilya, Prof. Banshidher Shastri, 17 Tilak Path, Indore.

**Hindi**

1. Rathore, Arjun. *Swatantrata parvarti Hindi kee khopoorna patrakarita : Ek adhyayan 1947 se 1990 tak*. Devi Ahilya. Dr. Rajendra Mishra, 9/2 Snehitaganj, Indore.

**Marathi**

1. Joshi, M.B. *Shri Punt Mahaj Balakundrikar : Vyakti ani vangmaya : Ek abhyas*. Shivaji. Dr. H.B. Kulkarni, 'Sumandar' Kasba Peth, Phaltan.

2. Modi, A.M. *Marathi atmacharit per Vangmayaatoor ghagilnare samajdarshan : Kalkhan, 1870 te 1887*. Shivaji. Dr. H.B. Kulkarni, Sumandar, Kasba Peth, Phaltan.

3. Mokashi, S. A. *Natyacharya Shri K. Kolhatkar va natyacharya K.P. Khanditkar yanchya natakanacha tulnatmak abhyas*. Shivaji. Dr. H. B. Kulkarni, Sumandar, Kasba Peth, Phaltan.

4. Patil, J.P. *Shri Gopalnath Mahara* yanche shishya : Govindnath yanche charitra eai kavya : Ek abhyas. Shivaji. Dr. H. B. Kulkarni, Sumandar, Kasba Peth, Phaltan.

**Manipuri**

1. Aggarwal, Kailash S. *A co-relational study of linguistics in Imphal Town*. Manipur.

2. Madhuri Devi, K. *Khunirakpam Chaebagi Warengda mitiyong amsaung khuti*. Manipur.

3. Medhabati Devi, N. *Realism in Manipuri short story, 1933-1985*. Manipur.

4. Singh, Ibohanbi. *Imagery in early Manipuri poetry*. Manipur.

5. Singh, Ng. Kerani. *Tongbragi Llada lousing Amsaung Phagi*. Manipur.

6. Singh, S. Kumar. *Folklore in Kwatha Village*. Manipur.

7. Singh, S. Rajnit. *A comparative study of Manipuri and Hindi morphology*. Manipur.

**Malayalam**

1. Mini, T. *Contribution of Kuttikrishna Mettar to Malayalam literary criticism*. Kerala. Dr. N. Sam.

2. Mable, J. *Ragnengads charithem killippattu critical edition and study*. Kerala. Dr. N. Sam.

# THESES OF THE MONTH

## A List of Doctoral Theses Accepted by Indian Universities

### SOCIAL SCIENCES

#### Psychology

1. Batra, Amrit Bala. *A study of perceptual judgement in relation to intelligence, anxiety and academic achievement of adolescent students.* Durgawati, Dr. R. P. Srivastava, Prof., Govt. College of Education, Psychology and Guidance, Jabalpur.

2. Sundershan Kumari. *Problem solving as a function of extraversion, intelligence and induced stress.* IP.

#### Sociology

1. Draxc, Prabhakar Bhatam. *The dange dhanvans of Kolhapur District : A sociological study.* Shivaji, Dr. M.J. Kashalikar, Head, Department of Sociology, Devchand College, Arjunnagar, Kolhapur.

2. Mishra, Ravinder Nath. *Gramen samajik sanrachana mein gur sangarsh : U.P. ke Varanasi Jangal ke teen ghor per adharit ek samajshastriya adhyayan.* Avadh, Dr. Rambali Mishra, Lecturer, Department of Sociology, B.N.K. B.P.G. College, Akbarpur, Faizabad.

3. Pandey, Vijendra Kumar. *Social mobility among women in the transitional city of Raipur in Madhya Pradesh.* Utkal.

4. Tripathi, Yogender Prasad. *Bhartiya ghar mein adivasi-niki karan : Pauri U.P. ke char paon per adharit ek samajshastriya adhyayan.* Avadh, Dr. Chander Shekhar Mishra, Lecturer, Department of Sociology, B.N.K. B.P.G. College, Akbarpur, Faizabad.

#### Political Science

1. Bawri, Sudochan. *Electoral politics in Meghalaya : a case study of the Greater Shillong Areas during the 1983 Assembly election.* NEHU, Dr. B. Pakem, Department of Political Science, North Eastern Hill University, Shillong.

2. Chaudhuri, Kanini Misra. *Politics behind purges and the gang of four, 1969-78.* JNU, Prof. (Mrs) Gargi Dutt, Centre for East Asian Studies, Jawaharlal Nehru University, New Delhi.

3. Dubey, Raj Bahadur. *Uttar Pradesh Vidhan Sabha adhyaksha ka adhyayan.* Avadh, Dr. Mithila Pandey, Lecturer, Department of Political Science, R.R. College, Amethi, Sultanpur.

4. Gargava, Manjushri. *M.P. mein sekhari bhoomi vikas bankon ka sangathan tatha prashasan.* Bhopal, Dr. O.P. Chaturvedi, Pratapura, P. Box No. 332, Central T.T. Nagar, Post Office, Bhopal.

5. Mishra, Shishir Kumar. *Political and legislative behaviour of deprived people : A study of the scheduled caste and scheduled tribe M.L.As of Orissa, 1967-1977.* Sambalpur, Dr. S. Nanda, Prof., Department of Political Science, Sambalpur University, Bouda.

6. Shukla, Sona. *1977 se 1984 tak ke Bharatiya Lok Sabha aam chunavon mein matdata ka vyavhar: Madhya Pradesh ke Sagar Jile ke vishesh sandarbh mein.* HS Gour, Dr. R.P. Gautam, Department of Political Science and Public Administration, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

7. Srivastava, Kirti. *Bhartiya rajniti vyavastha ka sarvodayee vikalp.* Avadh, Dr. R. Kushwaha, Lecturer, Department of Political Science, M.L.K. College, Balrampur.

8. Sultan Omer. *Modernization and ethnicity : A study of Telangana Muslims.* Osmania.

9. Verma, Madan Mohan. *Gandhi's technique of mass mobilization.* Jamia, Dr. Zafar Ahmad Nizami, Reader, Department of Political Science, Jamia Millia Islamia, New Delhi.

#### Economics

1. Gupta, Sangeeta. *Financial appraisal of wagon and engineering companies in India.* Rajasthan, Prof. M.C. Khandelwal, Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur.

2. Inderjeet Kaur. *Sehkar sakh evam Damoh Jile ka krishi vikas.* HS Gour, Dr. B.K. Jain, Department of Commerce, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

3. Phogat, Mahender Singh. *Periodic markets and intra urban mobility : A case study of Bhopal City.* Bhopal, Dr. A. C. Minocha, Dean, Social Sciences, Bhopal University, Bhopal and Dr. H.S. Yadav, Reader, R.P.E.G., Bhopal University, Bhopal.

4. Sinha, Kamini. *An economic study of the working of land mortgage banks in financing Indian agriculture with special reference to Bihar from 1956-85.* Magadh.

5. Tiwari, Lalit Shankar. *Origin and growth of socio-economic life in Ancient Rajasthan upto 1000 A.D.* Rajasthan, Prof. J.M. Joshi, Department of Economics, University of Rajasthan, Jaipur and Dr. G.N. Sharma, 66 Bhattacharyi Chhatri, Udaipur.

#### Law

1. Aparajit, Jayant Laxmikant. *Concept of equality and compensatory discrimination under the Constitution of India.* Nagpur, Dr. A. Laxminath, Faculty of Law, Nagpur University, Nagpur.

2. Krishna, P.M. *Legal regulations of Government companies : Perspectives and policies.* Osmania.

3. Nekade, Shivraj Basbettiappa. *National emergency under the Indian Constitution.* Marathwada, Prof. J.K. Mittal, Research Prof., Indian Law Institute, Bhagwandas Road, New Delhi.

#### Military Studies

1. Pandey, A. K. *Bharat ke purbi simant kee suraksha samasya.* Avadh, Dr. B.S. Singh, Department of Military Science, P.B. College, Pratapgarh.

2. Srivastava, B.K. *Bharat kee madhya-kaleen suraksha mein topkhanen ka yogyan : Mughal kaleem Topkhanen ke sandarbh poorvak*. Avadh. Dr. O.P. Srivastava, Head, Department of Military Science, K.S. Saket P.G. College, Faizabad.

#### Education

1. Agarwal, Shashi S. *A critical study of effects of revaluation on the results of candidates appearing at university examinations in Maharashtra*. Nagpur. Dr. G.S. Parasher, Department of Education, Nagpur University, Nagpur.

2. Badri Vishal. *A study of curriculum load at 10+2 stage in U.P. with special reference to science subjects*. Avadh. Dr. B.P. Singh, Department of Education, K. N. I. College, Sultanpur.

3. Pandey, Bal Krishna. *A study of the finances of the Avadh University*. Avadh. Dr. S.L. Chopra, Head, Department of Education, Lucknow University, Lucknow.

4. Ranganathan, Namita. *Stress among school children*. JNU. Dr (Mrs) V. Veeraraghavan, Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University, New Delhi.

5. Shukla, Shobh Nath. *A study of frustration in relation to professional adjustment and teaching efficiency among different grade teachers*. Avadh. Dr. B.P. Singh, Head, Department of Education, K.N.I. College, Sultanpur.

#### Commerce

1. Baitule, Jagdish Sadashivrao. *Nagpur Jilchhatrel sekhari krishi patsanstra ani Nagpur Jile sekhari adhikash yanehye karjhaki madhil jantra ani yevam nirman hona ya astubhachya samasyancha abhyas*, kalkhanda 1972 to 1980. Nagpur. Dr. V. S. Shenwai, Department of Business Management and Economics, S.P. City College, Nagpur.

2. Ghosh, Gorachand. *The hidden economy in India*. Calcutta.

3. Singh, Girija Nandan Pd. *Social security measures of industrial workers in India : A critical appraisal of their application in the coal mines*. Magadh.

#### Home Science

1. Jhamb, Rekha. *A comparative study of house hold storage methods of vegetables with reference to time, money, colour, texture, taste and estimation of Vitamin C*. Nagpur. Dr. (Mrs) Asha Patwardhan, Department of Home Sciences, Nagpur University, Nagpur.

2. Rao, Suhasini. *Physiological costs and perceived exertion for home and farm activities done by rural women*. SNDT. Dr. (Smt) M.A. Varghese.

#### Business Management

1. Sharma, Pradeep Kumar. *Export marketing problems : A case study of problems and potentials of Indian readymade garment industries*. Rajasthan. Dr. K.K. Sharma, Department of Business Administration, University of Rajasthan, Jaipur.

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DIRECTOR

# CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
September 26-28, 1988	<b>International Conference on Welding Technology in Developing Countries</b>	<b>To provide an opportunity to scientists and technologists from developing and advanced countries to share their experiences in the area of Welding Technology.</b>	<b>University of Roorkee, Roorkee.</b>	<b>Prof. P.C. Gupta, Organising Secretary, International Conference on Welding Technology in Developing Countries, Department of Mech. &amp; Ind. Engg., University of Roorkee, Roorkee-247667</b>
October 27-29, 1988	<b>National Seminar on Statistics in Medicine, Health and Nutrition.</b>	<b>To discuss Data-Base and Analysis in Health and Nutrition—Present and Future.</b>	<b>Department of Statistics, National Institute of Nutrition, Hyderabad.</b>	<b>Dr. K. Visweswara Rao, Organising Secretary, National Seminar on Statistics in Medicine, Health and Nutrition, Department of Statistics, National Institute of Nutrition, Indian Council of Medical Research, Jamia Osmania, Hyderabad-500 007</b>
Oct. 31-Nov. 4 1988	<b>Short Term Course on Remote Sensing and Geo-Data Base with Socio Economic Information</b>	<b>To expose the concept of Data Base Approach towards handling and analysing the Remotely Sensed and Land-based Information.</b>	<b>Centre of Studies in Resources Engineering, IIT, Bombay.</b>	<b>Dr. T.V. Pavate Chief Project Engineer, Training Extension and Project Cell, RSD-VI, CSRE, IIT, Bombay-400076</b>
December 13-17, 1988	<b>International Seminar on Education and Training in Water Resources in Developing countries.</b>	<b>To assess the requirements of manpower, education and training in Water Resources Sector upto the year 2025 in the developing countries.</b>	<b>Central Board of Irrigation and Power, New Delhi.</b>	<b>Mr. C.V.J. Varma, Organising Secretary, International Seminar on Education and Training, Central Board of Irrigation and Power, Malcha Marg, Chanakyapuri, New Delhi-110021</b>
Dec. 15-17, 1988	<b>National Conference on Fluid Mechanics and Fluid Power</b>	<b>To provide a forum for exchange of information on topics in fluid mechanics and design, research and development activities in areas like power generation, aerodynamics, fluidics, biomechanics, etc.</b>	<b>Harcourt Butler Technological Institute, Kanpur.</b>	<b>Dr. N.L. Kachhara, Organising Secretary, 16th National Conference on Fluid Mechanics and Fluid Power, Mechanical Engineering Department, Harcourt Butler Technological Institute, Kanpur-208002</b>

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**Qualifications Essential :** (i) Doctorate in Botany/Microbiology (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**20. Library/Information/Documentation Staff, T-8 Head Library Services** (One post) Rs. 1300-1700 (Pre-revised) Age : Below 50 years : Reserved for S.C. Candidate.

**Qualifications Essential :** (i) Bachelor's degree of a recognised University with Master's degree (M. Lib) in Library/Information Science (OR) Any equivalent degree certificate conferred by any Organisation

which are approved by the Ministry of Education. Government of India like INSDOC and DRTC.

**OR**

Master's degree of a recognised University with Diploma or degree (B. Lib) in Library/Information Science or any equivalent certificate if conferred by any Organisation which are approved by the Ministry of Education, Govt. of India. (ii) Five years' experience for Diploma Holders.

**21. Technical Officer T-7 (Radiological Safety)** (One post) Rs. 3000-4500 (Revised) Age : Below 45 years. Reserved for S.C. Candidate.

**Qualifications Essential :** (i) Three years' Diploma in Radiology/Bachelor's degree in Radiology/Science with Physics and Chemistry. (ii) Five years' experience in Radiological Safety and handling of nuclear equipments such as GM Counter, Gama Cell Scintillation Counter.

#### **CENTRAL PLANTATION CROPS RESEARCH INSTITUTE, KASARAGOD.**

**22. Scientist S-3 (Joint Director)** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. (For ICAR Res. Complex for CPCRI, GOA).

**Qualifications Essential :** (i) Doctorate in any branch of Agril Science/Hort. (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

#### **INDIAN GRASSLAND & FODDER RESEARCH INSTITUTE, JHANSI**

**23. Scientist S-3 (Agril. Extension)** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.C. Candidate.

**Qualifications Essential :** (i) Doctorate in Agril. Extension (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**24. Scientist S-3 (Agricultural Economics)** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.

**Qualifications Essential :** (i) Doctorate in Agril. Economics/Economics (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**25. Scientist S-3 (Farm Machinery & Power)** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.

**Qualifications Essential :** (i) Doctorate in Agril.

Engineering with special reference to Farm Machinery & Power (relaxable to Master's degree in case of candidates with exceptionally distinguished record of productive research). (ii) At least 5 years' experience of research/teaching (excluding the period spent for obtaining the Doctorate degree) for candidates possessing the Doctorate degree and 8 years' for those having a Master's degree or an equivalent qualification. Experience will count after the attainment of entry qualifications to ARS.

#### **NATIONAL ACADEMY OF AGRICULTURAL RESEARCH MANAGEMENT, HYDERABAD.**

**26. Scientist S-3 (Social Science-Organisational Psychology) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.**

**Qualifications Essential :** (i) Doctorate in any branch of Social Science with specialisation in Organisational Psychology (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

#### **DIRECTORATE OF OILSEEDS RESEARCH, HYDERABAD**

**27. Scientist S-3 (Plant Breeding & Project Coordinator) (Sunflower) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. (For U.A.S. Bangalore).**

**Qualifications Essential :** (i) Doctorate in Plant Breeding (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

#### **CENTRAL INSTITUTE OF AGRIL. ENGINEERING, BHOPAL**

**28. Scientist S-3 (Farm Machinery & Power) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years Reserved for S.T. Candidate. (Under the Project on R.E.S. for Agriculture and Agro based Industries to work as Principal Investigator (Wind Energy).**

**Qualifications Essential :** (i) Doctorate in Agricultural/Mechanical Engineering with specialisation in Farm Machinery and Power (relaxable to Master's degree in case of candidates with distinguished record of productive research). (ii) As in Item No. 25 above.

#### **INDIAN LAC RESEARCH INSTITUTE, RANCHI**

**29. Scientist S-3 (Chemical Engineering) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.**

**Qualifications Essential :** (i) Doctorate in Chemical Engineering (relaxable to Master's degree in case of candidates with distinguished record of productive research) (ii) As in Item No. 25 above.

**30. Scientist S-3 (Technology Transfer) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.C. Candidate.**

**Qualifications Essential :** (i) Doctorate in Extension Education/Chemical Tech./Applied Chemistry (relaxable to Master's degree or an equivalent qualification in the above discipline in case of candidates with distinguished record of productive research and responsible leadership in the relevant field). (ii) Other than Technology & Engineering Group : At least 7 years' experience of transfer Technology/Research/Teaching at least at Bachelor's degree level for candidates, possessing a Doctorate Degree (excluding the period spent for obtaining the Doctorate degree and 10 years' for those having Master's degree or equivalent qualifications. Out of 7/10 years, at least 2 years' experience should be at Scientist S-2 or equivalent pay level. (iii) Technology & Engg. Group : at least 5 years' experience of research/teaching (excluding the period spent for obtaining the Doctorate Degree) for candidates possessing a Doctorate degree and 8 years' for those having a Master's degree or an equivalent qualifications. Experience will count after the attainment of entry qualifications to ARS.

#### **CENTRAL AGRICULTURAL RESEARCH INSTITUTE, PORT BLAIR.**

**31. Scientist S-3 (Plant Breeding) (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.**

**Qualifications Essential :** (i) Doctorate in Plant Breeding (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field) (ii) As in Item No. 17 above.

#### **NATIONAL RESEARCH CENTRE FOR SOYABEAN, INDORE.**

**32. Scientist S-3 (Plant Breeding) : (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.**

**Qualifications Essential :** (i) Doctorate in Botany/ Agricultural Botany with specialisation in Genetics/ Plant Breeding (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**33. Scientist S-2 (Plant Pathology) : (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.**

**Reserved for S.C. Candidate.**

**Qualifications Essential :** (i) Doctorate in Plant Pathology/Botany or Agricultural Botany or Economic Botany with specialisation in Plant Pathology (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research). (ii) At least 5 years' research/teaching experience at least at Bachelor's degree level for candidates possessing a Doctorate degree (excluding the period spent for obtaining the Doctorate degree) and 8 years' for those having Master's degree or an equivalent qualification.

**34. Scientist S-2 (Plant Breeding) :** (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.

**Qualifications Essential :** (i) Doctorate in Plant Breeding (Relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research). (ii) As in Item No. 33 above.

**35. Scientist S-2 (Agronomy) :** (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.

**Qualifications Essential :** (i) Doctorate degree in Agronomy (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research). (ii) As in Item No. 33 above.

**NATIONAL CENTRE FOR MUSHROOM RESEARCH AND TRAINING, SOLAN**

**36. Scientist S-3 (Plant Pathology) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.T. Candidate.

**Qualifications Essential :** (i) Doctorate in Plant Pathology/Mycology (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**DIRECTORATE OF RICE RESEARCH, RAJENDER NAGAR, HYDERABAD**

**37. Communication Specialist T-7 :** (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.

**Qualifications Essential :** (i) Master's degree of a recognised University in Agricultural Extension/Communication. (ii) At least 7 years' experience in extension work and training/research/teaching in the relevant field.

**JUTE TECHNOLOGICAL RESEARCH LABORATORIES, CALCUTTA**

**38. Scientist S-3 (Textile Manufacture) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.

**Qualifications Essential :** (i) Doctorate in Textile Manufacture/Textile Technology/Fibre Technology/Jute Technology (relaxable to Master's degree in the case of candidates with distinguished record of productive research). (ii) As in Item No. 25 above.

**39. Scientist S-3 (Mechanical Engineering) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.C. Candidate.

**Qualifications Essential :** (i) Doctorate in Mechanical Engineering with specialisation in design of machines (relaxable to Master's degree in the case of candidates with distinguished record of productive research). (ii) As in Item No. 25 above.

**INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR**

**40. Scientist S-3 (Agricultural Extn.) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years.

**Qualifications Essential :** (i) Doctorate in Veterinary Science/Animal Science/Dairy Science with specialisation in Extn. Education/long experience in Extn. Education.

**OR**

Doctorate in Agricultural Extension with specialisation in Veterinary Science/Animal Science/Dairy Science (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) At least 7 years' experience of training/extension/teaching at least at Bachelor's degree level for candidates possessing a Doctorate degree (excluding the period spent for obtaining the Doctorate degree) and 10 years' for those having a Master's degree or an equivalent qualification. Out of 7/10 years, at least 2 years' experience should be at S-2 or equivalent pay level.

**NATIONAL RESEARCH CENTRE ON COLD-WATER FISHERIES, ALLAHABAD (UP)**

**41. Scientist S-3 (Fish and Fishery Science) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.C. (For Haldwani Distt., Nainital, UP).

**Qualifications Essential :** (i) Doctorate in Zoology/Fishery Biology (relaxable to Master's Degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research and responsible leadership of productive research in coldwater fisheries). (ii) As in Item No. 17 above.

**CENTRAL INSTITUTE OF FRESHWATER AQUACULTURE, BHUBANESHWAR**

**42. Scientist S-3 (Animal Physiology) :** (One post) Rs. 1500-2000 (Pre-revised) Age : Below 50 years. Reserved for S.T. Candidate. (For Kalyani West Bengal).

**Qualifications Essential :** (i) Doctorate degree in Animal Physiology/Biochemistry (relaxable to Master's degree or an equivalent qualification in the case of candidates with exceptionally distinguished record of productive research and responsible leadership in the relevant field). (ii) As in Item No. 17 above.

**43. Scientist S-2 (Animal Physiology) :** (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years. Reserved for S.C. Candidate.

**Qualifications Essential :** (i) Doctorate in Animal/Frog/Fish Physiology (relaxable to Master's degree or an equivalent qualification in case of candidates with exceptionally distinguished record of productive research). (ii) As in Item No. 33 above.

**CENTRAL SHEEP & WOOL RES. INSTITUTE, AVIKANAGAR VIA JAIPUR (RAJ)**

**44. Sr. Vety. Officer T-7 :** (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.

**Qualifications Essential :** (i) Bachelor's degree in Veterinary & Animal Sciences. (ii) 7 years' experience

of working as a field Veterinarian/Vety. Officer in a large livestock farm.

### **CENTRAL INSTITUTE OF FISHERIES EDUCATION, BOMBAY.**

**45. Engineer T-7 (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years. Reserved for S.T. Candidate.**

**Qualifications Essential :** (i) Three years' Diploma/Bachelor's degree in relevant field (Mechanical Engineering). (ii) At least 5 years' experience. In the fields where the duration of Diploma Courses available in the country is only two years, the minimum qualifications will be two years' Diploma instead of three years' Diploma.

**46. Engineer T-7 (Fishing & Trg. Vessel (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years.**

**Qualifications Essential :** (i) Matriculation from a recognised School/Board/University or equivalent, (ii) Certificate of competency of MOT 1st Class or 2nd Class Engineer (Motor). (iii) 5 years' practical experience on board fishing vessel.

**Note I :** Qualifications are relaxable at the discretion of ASRB in case of candidates otherwise well qualified.

**Note II :** The qualifications regarding experience is/are relaxable at the discretion of the ASRB in case of candidates belonging to SC/ST if, at any stage of selection, the ASRB is of the opinion that sufficient number of candidates possessing the requisite experience are not likely to be available to fill up vacancies reserved for them.

### **NATIONAL RESEARCH CENTRE ON EQUINES, HISSAR (HARYANA)**

**47. Farm Manager T-9 (Livestock) (One post) Rs. 3700-5000 (Revised) Age : Below 50 years.**

**Qualifications Essential :** (i) 3 years' Diploma/Bachelor's degree in Veterinary Sciences and Animal Husbandry/Animal Sciences. (ii) 12 years' experience of working after holding Bachelor's degree, preferably handling of horses.

### **CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY, WILLINGDON ISLAND, MATSYAPURI, P.O., COCHIN.**

**48. Technician T-7 (Skipper) (One post) Rs. 1100-1600 (Pre-revised) Age : Below 45 years. Reserved for S.T. Candidates.**

**Qualifications Essential :** (i) Certificate of competency as Skipper for the Fishing Vessels issued by the Mercantile Marine Department. (ii) Secondary School Leaving Certificate or equivalent. (iii) 5 years' practical experience on Fishing Vessels.

### **CLOSING DATE FOR RECEIPT OF APPLICATIONS IN AGRICULTURAL SCIENTISTS RECRUITMENT BOARD OFFICE IS 22.8.1988.**

For candidates abroad and in the Andaman and Nicobar Islands, Lakshadweep, Minicoy and Amindivi Islands, State/Union Territories in the North Eastern Region, Ladakh Division of J & K State/Sikkim/Pungi Sub-division of Chamba, Lahul and Spiti districts of Himachal Pradesh, last date will be 5.9.1988.

### **GENERAL INSTRUCTIONS**

1. For application forms, please write to the Secretary, Agricultural Scientists Recruitment Board, Krishi Anusandhan Bhawan, Pusa, New Delhi-110012. Request for forms must specify Advt. No. 3/88, name of the post and item number and should be accompanied by a self-addressed unstamped envelope (23x10 cms. size).
2. Separate application with separate fee is required for each post.
3. Application forms complete in all respects should reach office of the ASRB together with the application fee of Rs. 8/- (No fee for SC/ST candidates) in the form of Crossed Indian Postal Order drawn in favour of the Secretary, Indian Council of Agricultural Research by the closing date. Applications received after the closing date will not be entertained. In case a candidate anticipates delay in forwarding of his application through Proper Channel, he must send an advance copy of the Application alongwith the fee which must reach this Office on or before the closing date.
4. Candidates abroad may apply on plain paper and send their applications together with an International Postal Order/Bank Draft covering the application fee drawn in favour of the Secretary, Indian Council of Agricultural Research, so as to reach the office of the ASRB by the closing date. In countries where regular commercial channels, are not available the candidates can deposit the application fee in local currency with the Indian Missions/Posts abroad who in turn will issue on R.B.I. Draft in favour of Secretary, ICAR, New Delhi.
5. Only the candidates belonging to SC/ST would be considered against the respective reserved posts. As such General candidates NEED NOT APPLY against the reserved posts.
6. Crucial date for determining the age limit of candidates for each post will be the closing date for receipt of applications from candidates in India. There will be no maximum age limit for ICAR Employees. Relaxation in age is allowed to SC/ST persons to the extent permissible under the rules.
7. The prescribed Essential Qualifications are minimum and possessing of the same does not entitle candidates to be called for interview. Where the number of applicants is large, the Board may restrict the number of candidates for Interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the Advt.
8. T.A. Contribution will be admissible for those called for Interview as per ICAR Rules.
9. If required, candidates must appear for personal interview.
10. Higher initial pay may be recommended by the ASRB for specially qualified and experienced candidates for all the posts.

davp 88/207

# CLASSIFIED ADVERTISEMENTS

**UTKAL UNIVERSITY**  
VANI VIHAR, BHUBANESWAR-4  
No. Advt. Estt. II/718/A/9728/88

Dated : 30.6.88

Applications in five copies are invited in the prescribed form alongwith attested copies of certificates and mark-sheets of all examinations passed for the post of Technician for the Electron Microscope in the P.G. Deptt. of Botany, Utkal University in the scale of pay of Rs. 1350-55-1755-EB-60-2095-70-2375-EB-75-2975 so as to reach the undersigned on or before the 30th July, 1988. The application forms can be obtained from the University Information Counter on production of a crossed Bank Draft in the State Bank of India, Utkal University Campus Branch, payable to the Finance Officer, Utkal University, Vani Vihar, Bhubaneswar-4 worth Rs. 30/- (Rupees Thirty) only in person or by post on receipt of a crossed Indian Postal Order for Rs. 30/- (Rupees Thirty) only payable to the Finance Officer, Utkal University, Vani Vihar, Bhubaneswar-4 along with a self-addressed envelope (23 cm x 10 cm) superscribed thereon with the words "Application form for the post of Technician for the Electron Microscope".

## Qualification and Experience

- Post-Graduate Degree in Physics or Computer Science or Electronics.
- Minimum 3 (Three) years working experience in Electronic Microscope.

## Age Limit

Candidates must not be below 21 years and above 28 years of age as on 30.7.88.

- The incumbent shall be entitled to all types of allowances to which other University employees are entitled.
- The University reserves the right not to fill-up the post, if decided.
- No application shall be entertained after the last date is over.
- The University may call for in-

terview only a limited number of candidates.

- No T.A./D.A. shall be paid for attending the interview.
- Candidates already in service should apply through proper channel but they should submit 4 (four) advance copies of the application in the University within the prescribed date.

REGISTRAR

## BANARAS HINDU UNIVERSITY

CORRIGENDUM TO  
Advt. No. I/BKB/87-88

- Out of the posts of KEEPER (Two), Dy. KEEPER (Two) and ASSISTANT CHEMIST (One) advertised in the month of March, 1988 in the Bharat Kala Bhawan, one post EACH is reserved for qualified S.C. / S.T. Candidates against the posts of KEEPER and DEPUTY KEEPER.
- The retirement age is 58 years unless otherwise revised instead of 60 years.
- The last date for receipt of applications on the prescribed forms for these posts has been extended upto 31st August, 1988.

Candidates desirous to apply may request the Registrar (Selection Committee Section) Banaras Hindu University, Varanasi-221005 for the application forms and other details by sending a crossed I.P.O. Bank Draft of Rs. 2/- in favour of the Registrar, B.H.U. and self-addressed envelope of 23 cm x 10 cm size carrying stamps of Rs. 1.80. Those who have already applied timely need not apply again.

## REGIONAL ENGINEERING COLLEGE

OURKELA-769008 (ORISSA)

Advt. No. 2/88 Dated : 6-7-1988

Applications in the prescribed form are invited for the following posts :

- Assistant Professor : Scale : Rs. 1200-50-1300-60-1900 (Plus allowances).

Metallurgical Engineering : Physical Metallurgy / Mechanical Metallurgy, and as addendum to Advertisement No. 1/88 dated 30-6-88 Ferrous Process Metallurgy/Corrosion.

Qualifications and Experience : As in Advertisement 1/88.

2. Lady Senior Research Fellow : (Under the School of Entrepreneurship Development and Management Sciences).

Purely Temporary under Plan Scheme, likely to continue.

Scale : Rs. 550-25-750-EB-30-900 plus allowances (likely to be revised).

Qualifications and Experience : Master's Degree in Economics/Commerce / Computer Application or, Degree in Engineering/Management. Knowledge in the field of Entrepreneurship is desirable.

Further details regarding qualifications, experiences, specialisations, Service conditions etc. and application form will be available from the undersigned on payment of Rs. 15/- in shape of crossed Bank Draft payable to "Principal, Regional Engineering College, Rourkela-769008" at the State Bank of India, R.E. College Campus Branch enclosing a self-addressed envelope 23 cm x 10 cm in size with postage stamp worth Rs. 1.80.

Last date of receipt of complete application is 6-8-88.

N.C. Mohanty  
REGISTRAR

## JADAVPUR UNIVERSITY CALCUTTA-700 032.

REC/N/125/88 Dated : 2nd July, 1988

## CORRIGENDUM

Reference the Jadavpur University Employment Notification No. A2/C/10/88 inviting applications for the three posts of Reader in History among other posts.

Under desirable column for II post 'OPEN' should be read against column (a) & (b).

Other stipulation of the above post will remain the same as notified earlier.

REGISTRAR

# KARNATAKA REGIONAL ENGINEERING COLLEGE

SURATHKAL (D. K.) P.O. SRINIVASNAGAR-574157

KARNATAKA STATE

## WANTED

Posts	Pay Scale	Total Salary in the minimum of grade
<b>I. Professor : 2 Posts :</b>	<b>Rs. 1500-2500 (Pre-revised)</b>	<b>Rs. 3905.70</b>
(1) Mathematics—1		
(2) Computer Engg.—1		
<b>II. Assistant Professor 5 Posts</b>	<b>Rs. 1200-1900 (Pre-revised)</b>	<b>Rs. 3367.60</b>
(1) Civil Engg. —1		
(2) Electrical Engg. —2		
(3) Mining Engg. —2		
<b>III. Lecturers : 16 Posts</b>	<b>Rs. 700-1600 (Pre-revised)</b>	<b>Rs. 2147.20</b>
(1) Electrical Engg. —4		
(2) Electronics —2		
(3) Mechanical Engg. —1		
(4) Mathematics —1		
(5) Physics —1		
(6) Chemistry —4		
(7) Computer Engg. —1		
(8) M.C.A. Course —2 (Under Mathematics)		
<b>IV. System Manager : 1 Post</b>	<b>Rs. 1200-1900 (Pre-revised)</b>	<b>Rs. 3367.60</b>
(in the grade of Asstt. Professor for 'O' Level Computer Section)		
<b>V. Entrepreneurship Development Cell :</b>		
(1) Senior Project Leader : 1 Post	Rs. 1200-1900	Rs. 3367.60
<b>VI. Nodal Centre :</b>		
(1) Project Officer : 1 Post	Rs. 1200-1900	Rs. 3367.60
(2) Computer Operator-cum-Programmer 1 Post	Rs. 650-1200 (Pre-revised)	Rs. 2074.30

Apply in the prescribed form on or before **8.8.1988**. The prescribed form alongwith details of qualification and instructions can be had from the College Office by sending a Crossed Indian Postal Order worth Rs. 10/- (for SC/ST Rs. 2.50 only) in favour of the Principal, K.R.E. College, payable at Srinivasnagar P.O. along with a self-addressed envelope of size 25 x 10 cm affixed with postage stamp of Rs. 2.00. Application received on plain paper and after the stipulated date will not be considered.

**T. Ramchandran  
PRINCIPAL**

# TAMIL UNIVERSITY

THANJAVUR

Advt. No. 4207/88 A1

Dated : 8-7-88

Applications in the prescribed form in quadruplicate are invited for the following temporary posts which are likely to be confirmed for the proposed Centre for South Indian Culture. Last date for the receipt of applications in the prescribed form is **29-8-88**.

1. Director (Professor in History) (1)
2. Associate Professors .. (2)
  - (i) Architecture & Sculpture
  - (ii) Music & Drama
3. Lecturers .. (5)
  - (i) Literature & Folklore
  - (ii) Anthropology
  - (iii) Archaeology & Epigraphy
  - (iv) Linguistics
  - (v) Philosophy
4. Research Associates .. (5)
  - (i) Anthropology
  - (ii) Painting
  - (iii) Folklore
  - (iv) Architecture
  - (v) Music & Drama

Scales of Pay for the above Posts :  
(U.G.C. Scales)

Post No. 1 : Rs. 4500-150-5700-200-7300

Post No. 2 : Rs. 3700-125-4700-150-5300-200-5700

Post No. 3 : Rs. 2200-75-3800-100-4000

Post No. 4 : Rs. 2200-100-2700

Candidates who wish to apply for the above posts should possess a Ph.D. Degree except No. 4 and requisite experience in the relevant field. They may get the required application forms etc. by sending a written requisition with clear postal address accompanied by Bank Draft to the value of Rs 25/- (Rupees Twenty five only) (Rs. 15 for SC/ST candidates) drawn in favour of the Finance Officer, Tamil University, Thanjavur 613 001 payable at Thanjavur.

All requisitions, however should be addressed to The Registrar, Tamil University, Thanjavur-613 001 accompanied by a self-addressed cover bearing postage stamps to the value of Rs. 2.60. The cost of the application blanks will not be refunded under any circumstances.

**Dr. P. Chidanan  
REGISTRAR**

**Sanjay Gandhi Post-Graduate Institute of Medical Sciences**  
**Post Box No. 375, Rae Bareli Road, Lucknow-226 001 (U.P.)**

Last Date : 1st August, 1988

Advt. No. : 32/88

**REQUIRES**

Sl. No.	Name of the Post	No. of Post	Pay-Scale (Pre-revised)	Total Emoluments	Maximum Age
1.	Sr. Administrative Officer	1	Rs. 1250-2050/-	Rs. 2933/-	40 Yrs.
2.	Librarian	3	Rs. 1000-1900/-	Rs. 2202/-	45 Yrs.
3.	Assistant Store Purchase Officer	1	Rs. 850-1720/-	Rs. 2002/-	40 Yrs.
4.	Dy. Superintendent of Nursing	1	Rs. 1250-2050/-	Rs. 2933/-	45 Yrs.
5.	Assistant Medical Records Officer	1	Rs. 850-1720/-	Rs. 2002/-	40 Yrs.
6.*	Assistant Matron	2	Rs. 620-940/-	Rs. 1566/-	40 Yrs.
7.*	Nursing Sister	14	Rs. 515-860/-	Rs. 1320/-	35 Yrs.
8.	Junior Engineer (Bio-Medical)	5	Rs. 515-860/-	Rs. 1320/-	35 Yrs.
9.	Technical Assistant	4	Rs. 515-860/-	Rs. 1320/-	35 Yrs.
10.	Assistant Accountant cum Computer Operator	4	Rs. 515-860/-	Rs. 1320/-	35 Yrs.
11.	Medical Record Technician	2	Rs. 515-860/-	Rs. 1320/-	35 Yrs.
12.*	Staff Nurse	235	(likely) Rs. 470-735/-	Rs. 1221/-	30 Yrs.
13.	Senior Operator CSSD	1	Rs. 470-735/-	Rs. 1221/-	30 Yrs.
14.	Store Keeper-cum- Pharmacist	1	Rs. 470-735/-	Rs. 1221/-	30 Yrs.
15.	Senior Operator Laundry	1	Rs. 430-685/-	Rs. 1132/-	30 Yrs.
16.**	Store Keeper-cum-Clerk	1	Rs. 400-615/-	Rs. 1132/-	30 Yrs.

\*\*Designation and Pay-Scale is likely to be revised

**Minimum Qualifications and Experience**

**For Post No. 1**

- First or Good Second Class Post-Graduate degree with diploma degree in public administration business administration hospital administration with 10 yrs. experience of which 6 yrs. at middle level in large organisation institution corporate body. Should be conversant with administrative matters including personnel functions, training, management of properties, security and house keeping functions.

**For Post No. 2**

- First or Second Class M.A. M.Sc. M.Com., plus a first or second class B. Lib. Science or a diploma in Library Science. Degree of M.Lib. Science will be preferred.
- At least 10 yrs. experience as Librarian or in a responsible professional capacity in an University or equivalent Library.
- Research experience with publications will be another preferential qualification.

Deserving candidates may also be considered for appointment on contract basis for a specified period.

**For Post No. 3**

Bachelor Degree preferably in Science, diploma in materials management and Inventory control from a recognised Institute. Diploma in Computer Operation and knowledge in its use will be desirable. Minimum 5-8 yrs. working experience in supervising capacity in Stores and Purchase Department of Scientific Medical Institute R & D organisation. Should be fully conversant with the practical knowledge of modern technique of materials management like ABC analysis, R.O.I., E.O.Q. and import procedure and clearance of imported consignment and formulation of Tenders.

**For Post No. 4**

B.Sc. Nursing with 10 yrs. experience out of which minimum 5 yrs. should have been in an administrative capacity (Assistant Matron Matron of reputed hospital or Medical College Hospital). Preference will be given to those with M.Sc. degree.

**For Post No. 5**

Graduate with degree in Medical Records and 1 yrs. experience or diploma in Medical Records with 5 yrs. experience in large teaching/research hospital.

**For Post No. 6**

B.Sc. Nursing preferably with diploma in Nursing Administration. 3 yrs. as Nursing Sister with Administrative experience.

**For Post No. 7**

Diploma in Nursing with 10 yrs. experience as Staff Nurse or B.Sc. Nursing with 8 yrs. experience in a large hospital or Medical College.

**For Post No. 8**

- First Class diploma in Electrical/ Mechanical/Electronic/Refrigeration Engineering from a recognised Institution Ploytechnic.
- Minimum 2 yrs. experience in a reputed organisation / department/ Institution.
- Candidates with prior experience in hospital radiological analytical equipment maintenance will be given preference.

**For Post No. 9**

Graduates with 3 yrs. experience of either working in a large Library or handling of audio-visual equipments. Candidates having Intermediate qualification with diploma in Lib. Science or Photography with similar experience can also be considered. Persons knowing typing or computer operation will be preferred.

**For Post No. 10**

Graduate in Commerce with Accountancy or Intermediate in Commerce with 5 yrs. experience and knowledge of computer operations.

**For Post No. 11**

Graduate with diploma in Medical Records and 1 yr. experience or Intermediate with diploma in Medical Records with 3 yrs. experience in large teaching research hospital. Candidates without diploma may be considered with at least 5 yrs. experience of working in Medical Records in a large teaching hospital in lower grade.

**For Post No. 12**

Diploma in Nursing with 3 yrs. experience in large hospital or a Medical College. B. Sc. Nursing will be preferred.

**For Post No. 13**

Graduate with diploma in CSSD Technology with 1 yr. experience or Intermediate with diploma in CSSD Technology and 3 yrs. experience in hospital. Candidates without diploma may be considered with at least 5 yrs. experience of working in CSSD in a large hospital in lower grade.

**For Post No. 14**

B. Pharmacy or Intermediate with diploma in Pharmacy and 3 yrs. experience of store keeping and Pharmacy.

**For Post No. 15**

High School with 3 yrs. experience of working with mechanised laundry preferably in a hospital in supervisory capacity.

**For Post No. 16**

Graduate with 3 yrs. practical experience of working as Store Keeper in a hospital.

**\*Note**

For Nursing Personnels: Candidates with experience in speciality nursing or

who have undergone Post Basic Clinical Nursing Speciality short term programme approved by Nursing Council of India will be preferred. During Project Phase, selected candidates will get Project Allowance of Rs. 150/-, Rs. 125/- and Rs. 100/- p.m. for post 6,7 & 12 respectively.

Application typed on plain paper containing the following particulars should be addressed to THE DIRECTOR, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Post Box No. 375, Rae Bareli Road, Lucknow-226 001, along with marksheets and certificates of qualification and experience etc. Separate applications for each post should be sent in separate envelope.

1. Advertisement No. 2. Post applied for. 3. Sl. No. 4. Name 5. Full Name (in Block Capital) 6. Father's Husband's Name 7. Date of Birth 8. Whether SC ST 9. Address in Block letters for correspondence 10. Educational Qualification (Examination Passed University Board : Year of Passing % of marks Division) 11. Technical Qualification: (a) Speed in

Typewriting English & Hindi 10. Experience if any, Name of Employer Position held Period From.....to..... Salary drawn with last Pay Slip. Signature.

**General Conditions**

Allowances as admissible to the employees of UP Govt. will be provided. Additional increments ordinarily (upto 5) may be considered in deserving cases. Relaxation in age as per rules may be considered in otherwise qualified candidates. Candidates belonging to SC ST and other categories will be given preference as per rules.

Persons in employment should send their applications through proper channel. The Director reserves the right to reject any or all applications without assigning any reason. Incomplete applications are liable to be rejected. No relaxation in minimum qualification is permissible.

Candidates must mention on top of Application the Sl. No. and Name of Post and Advertisement No., etc.

DIRECTOR

## **ADARSHA EDUCATION SOCIETY'S ARTS, COMMERCE & SCIENCE COLLEGE, HINGOLI-431 513 Dist. PARBHANI (Maharashtra)**

**No ACH/88-89/670**

**Dated : 4-7-88**

### **WANTED**

Applications from the Eligible Candidates are invited for the post of Lecturer in 'Electronics', in the St. College.

The post is reserved for S.T. if reserved category candidate is not available the post will be filled temporarily from open category.

Pay Scales as per Marathwada University rules.

Applications with full details (Bio-data, Caste Certificate & true copies of Marks-lists of Graduate & Post-Graduate Degree) should reach within fifteen days from the date of Publication of this advertisement.

Those who are in service should submit their application through proper channel.

**K.K. Dube  
PRESIDENT**

**Ad. U.T. Rode  
SECRETARY**

**Dr. J.M. Mantri  
PRINCIPAL**